



Fork sensors WFM

WFM180-120N311



Model Name > [WFM180-120N311](#)
Part No. > [6037839](#)



Illustration may differ

At a glance

- Highly visible red emitted light
- No setup, out-of-the-box operation
- 360° output indicator
- 5 fork sizes: maximum depth 120 mm, maximum width 180 mm
- Rugged, IP 67 aluminum housing

Your benefits

- Fixed housings guarantee a high level of operational safety with simple commissioning
- A visible red light enables easy alignment and fast adjustment
- The 360-degree yellow output indicator makes continual process control possible
- A wide range of different fork sizes increases installation flexibility
- The aluminum housing meets all requirements for use in harsh industrial conditions



Features

Functional principle:	Optical detection principle
Fork width:	180 mm
Fork depth:	124 mm
MDO ¹⁾ :	1 mm
Label detection:	-
Light source:	LED, red
Adjustment:	None
Output function:	Light switching

¹⁾ Minimum detectable object

Mechanics/electronics

Supply voltage V_s ¹⁾ :	DC 10 V ... 30 V
Ripple ²⁾ :	< 10 %
Power consumption ³⁾ :	< 20 mA
Switching frequency ⁴⁾ :	4 kHz
Response time ⁵⁾ :	125 μ s
Stability of response time:	\pm 15 μ s
Output type:	NPN: HIGH = approx. V_S /LOW \leq 1.5 V PNP: HIGH = $V_S - \leq$ 1.5 V/LOW = 0 V
Switching mode:	NPN

Output current I_{max}: 100 mA
 Initialization time: 140 ms
 Connection type: Connector M8, 3-pin
 Ambient light safety: Sunlight: ≤ 10,000 klx
 Protection class ⁶⁾: III
 Circuit protection: VS connections reverse-polarity protected
 Output Q short-circuit protected
 Interference suppression
 Enclosure rating: IP 67
 Weight: Ca. 80 g ... 190 g ⁷⁾
 Housing material: Aluminum

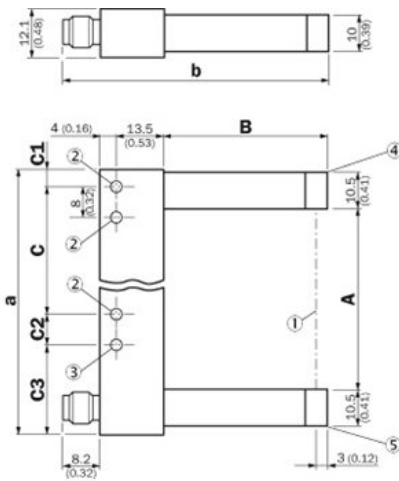
¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network, max. 8 A ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load ⁴⁾
 With light/dark ratio 1:1 ⁵⁾ Signal transit time with resistive load ⁶⁾ Reference voltage DC 50 V ⁷⁾ Depending on fork width

Ambient data

Ambient temperature ¹⁾: Operation: -10 ... 60 °C
 Storage: -40 ... 80 °C
 Shock load: According to EN 60068-2-27
 UL File-No.: UL No. NRKH.E191603 & cUL No. NRKH7.E191603

¹⁾ Do not bend below 0 °C

Dimensional drawing



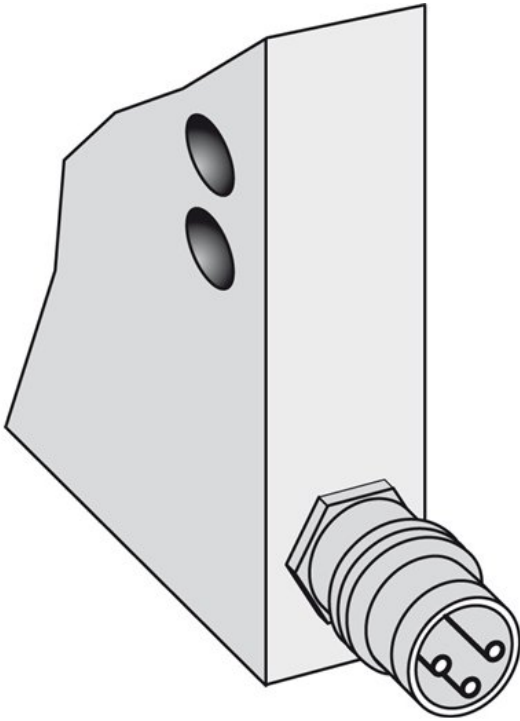
Dimensions in mm (inch)

	A Fork width	B Fork depth	C	C1
WFM30	30 (1.18)	42 (1.65)	30 (1.18)	6.5 (0.26)
WFM50	50 (1.97)	60 (2.36)	40 (1.57)	6.5 (0.26)
WFM80	80 (3.15)	60 (2.36)	70 (2.76)	6.5 (0.26)
WFM120	120 (4.72)	124.3 (4.89)	100 (3.94)	17 (0.67)
WFM180	180 (7.09)	124.3 (4.89)	152 (5.98)	22 (0.87)

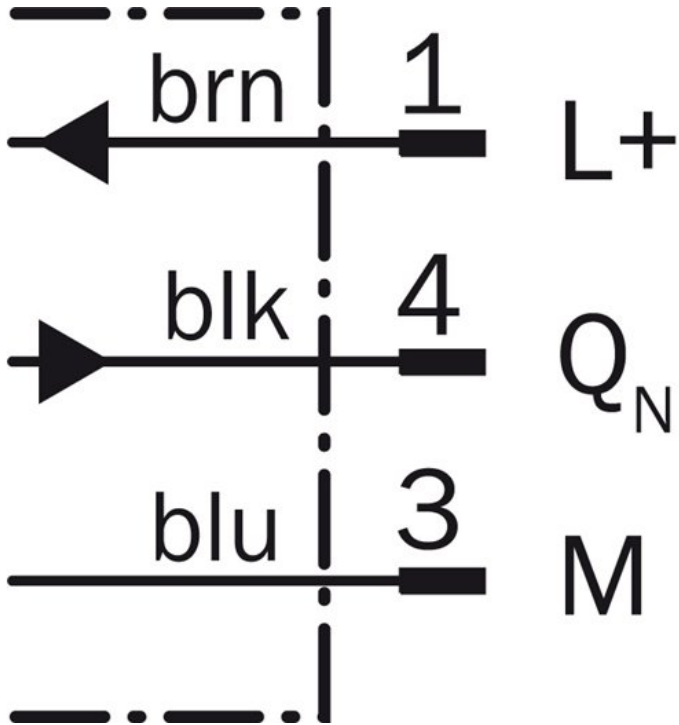
	C2	C3	a	b
WFM30	- (-)	- (-)	54 (2.13)	67.7 (2.67)
WFM50	8 (0.31)	19.5 (0.77)	74 (2.91)	85.7 (3.37)
WFM80	8 (0.31)	19.5 (0.77)	104 (4.09)	85.7 (3.37)
WFM120	10 (0.39)	17 (0.67)	144 (5.67)	150.2 (5.91)
WFM180	8 (0.31)	22 (0.87)	204 (8.03)	150.2 (5.91)

- [1] Optical axis
- [2] Mounting hole, Ø 4.3 mm
- [3] WFM50/80/120/180
- [4] Transmitted light (red)
- [5] Function signal indicator (yellow), switching output

Connection type



Connection diagram



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